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UNITED STATES DISTRICT COURT FOR THE

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

In re ATM FEE ANTITRUST LITIGATION	Case No. C 04 2676 CRB **CLASS ACTION** **DECLARATION OF RICHARD SCHMALENSEE** Date: October 5 Time: 10:00 AM Courtroom: 8 Honorable Charles R. Breyer
Relates to All Actions	

I. INTRODUCTION AND SUMMARY OF CONCLUSIONS

1. I have been asked to address the efficiencies associated with having an ATM network prescribe the default interchange fee, via rules specifying the amounts to be paid by and to participants in network ATM transactions.

2. The ability of an ATM network to set interchange fees, as well as a host of other network rules, at the network level, is central to the functioning of the network. If the owner of an ATM does not know the terms of reimbursement for a cash withdrawal made by another bank's depositor, it will be unwilling to dispense cash to that consumer. If any ATM network were not permitted to set rules and fees at the network level, members would need to enter into bilateral negotiations with each other. To create and maintain a network the size of Star, members would each need to engage in and successfully conclude thousands of bilateral negotiations. It is highly unlikely that such an extraordinarily cumbersome process would be successful. Even if an ATM network of some size could be created, it would be much less efficient than a network with centrally set rules and fees. Thus any ATM network based on bilateral negotiations, would not likely be competitively viable against proprietary networks where the operator sets the interchange fees in accord with long-standing industry practice.

3. I have also been asked to consider the efficiencies associated with the ability of an ATM network to decide on a non-zero interchange fee at the network level, as compared to a network that was constrained to set a zero interchange fee. I find that the ability of an ATM network to set the desired level of interchange fees, both as a general matter and in competition with other ATM networks, is important to the ability of an ATM network to attract ATM card issuers and ATM owners.

4. Before turning to a more detailed discussion of the conclusions described in paragraphs 2 and 3, I believe it is important to point out the striking and important empirical fact, that all ATM networks in the United States for which data are available have had positive interchange fees at all times through to the present. The fact that all of these networks, in different regions, operating with different ownership structures, and in competition with other

networks, have all chosen positive interchange fees at all points in time, is strongly indicative of the efficiency of having a network-wide positive interchange fee.

5. My declaration is organized as follows. Section II describes my background and qualifications. Section III presents a brief overview of the relevant aspects of the ATM industry. And Section IV explains the role of, and efficiencies associated with, centrally set interchange fees in an ATM network.

6. I understand that the discovery process is currently ongoing in this case. I will review additional relevant information as it becomes available.

II. QUALIFICATIONS

7. My name is Richard Schmalensee. I am the Howard W. Johnson Professor of Economics and Management at the Massachusetts Institute of Technology (MIT). I have taught at MIT since 1977, except for 1989-1991 when I was a member of the President's Council of Economic Advisers. I served as Dean of the Sloan School of Management at MIT from 1998 until I stepped down at the end of June 2007. I have served as a Director of the Long Island Lighting Company, the International Securities Exchange, MFS Investment Management, and the International Data Group, and have been a member of the Executive Committee of the American Economic Association.

8. As an academic, I have specialized in using economics to understand the operation of firms and industries, a field known in the profession as industrial organization. I was the co-editor of Volumes I and II of the *Handbook of Industrial Organization*, a standard reference in the field, and I wrote the entry on Industrial Organization in *The New Palgrave*, an authoritative encyclopedia of economics. During my career I have been author or co-author of 11 books and more than 110 articles on industrial organization and other areas of economics. Many of these apply research in industrial organization to issues in antitrust. I am a Fellow of the Econometric Society and the American Academy of Arts and Sciences. Over the years, both the U.S. Federal Trade Commission and the U.S. Department of Justice have asked me to consult on antitrust issues. For example, I was one of two economists outside the government with whom Department of Justice consulted in preparing the 1992 *Horizontal Merger Guidelines*.

9. I have had a special interest in the economics of credit, debit, and ATM cards. I am the co-author of both editions of *Paying with Plastic: The Digital Revolution in Paying and Borrowing*. I have also written about the economics of payment card interchange fees[1] and the antitrust treatment of joint ventures.[2] I have served as an economic expert witness on a number of credit, debit, and ATM card matters, including the *SouthTrust* case, which concerned network rules prohibiting ATM surcharges.[3] My curriculum vita is attached as **Appendix A**. My hourly rate is $800. The opinions I express in this report are to a large degree based on my many years of study of bank network economics. In addition, I have conducted a series of interviews with industry executives from the bank defendants, from the Star network, and from PNC and Cardtronics,[4] as well as with Dennis Lynch, who I understand is acting as an industry consultant and expert for the defendants in this case. I have also reviewed Mr. Lynch's declaration. A list of the individuals whom I interviewed is attached as **Appendix B**. A list of the documents upon which I relied is attached as **Appendix C**.

III. OVERVIEW OF THE ATM INDUSTRY

A. Banks and Cardholders

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1 Schmalensee, Richard, "Payment Systems and Interchange Fees," *Journal of Industrial Economics*, Vol. 50, Issue 103, 2002, p. 105. See also, Evans, David S. and Richard Schmalensee, "The Economics of Interchange Fees," Proceedings – Payments System Research Conferences, Federal Reserve Bank of Kansas City, 2005, p. 73-120.

2 Evans, David S. and Richard Schmalensee, "Economic Aspects of Payment Card Systems and Antitrust Policy Towards Joint Ventures," *Antitrust Law Journal*, Vol. 63, 1995, p. 861; Chang, Howard H., David S. Evans, and Richard Schmalensee, "Some Economic Principles for Guiding Antitrust Policy Towards Joint Ventures," *Columbia Business Law Review*, Vol. 1998, p. 223; Evans, David S. and Richard Schmalensee, "Joint Venture Membership: Visa and Discover Card," in *The Antitrust Revolution*, John E. Kwoka and Lawrence J. White (eds.), (New York: Oxford University Press, 1999).

3 *U.S. v. Visa U.S.A., Inc., et al.*, 163 F. Supp. 2d 322 (S.D.N.Y. 2001); *In Re: Visa Check/MasterMoney Antitrust Litigation*, U.S. District Court for the Eastern District of New York (CV-96-5238); *Advanta Corp. v. Visa U.S.A., Inc.*, U.S. District Court for the Eastern District of Pennsylvania (96-CV-7940); *Southtrust Corporation v. Plus System, Inc., Network, Inc., and Southeast Switch, Inc.*, U.S. District Court for the Northern District of Alabama, Southern Division (CV-93-P-2291-S); *SCFC ILC, Inc. (MountainWest) v. Visa U.S.A., Inc.*, 819 F. Supp. 956 (D. Utah, 1993), *rev'd in part and aff'd in part*, 36 F.3d 958, 968-69 (10th Cir. 1994).

4 Cardtronics is a large independent sales organization or ISO; see paragraph 13, below.

10. Banks offer a range of services to attract depository customers. For example, a checking account will commonly allow the consumer access to teller services at bank branches, check writing on her account, automated teller machine (ATM) services, debit card services, as well as a range of other services and functionality. Many of these services are typically bundled into the overall price that the consumer pays for the account. For example, the bank may not charge for each check that the consumer writes on her account or deposits into her account. The bank's fee for the overall account comes implicitly in the form of the difference between the return it expects on funds deposited in the account versus the interest (if any) it offers on the account, as well as sometimes in the form of an explicit monthly fee for maintaining the account.

11. ATM services are one component of the bundle of services offered to depository customers. ATM access typically allows a consumer to withdraw cash from her account, as well as perform balance inquiries or transfers, at any ATM that is in a network in which her bank participates.[5] (She can generally also make deposits at her bank's own ATMs as well as any others that have agreed with her bank to provide deposit services.) This allows her access to her account even when she is not close to a branch of her bank and at times when her bank is not open. For transactions at her bank's own ATMs, she will typically not be charged any fees. For transactions at another bank's ATMs, she will often, but not always, incur a surcharge set by the ATM owner; she also may incur a "foreign fee" from her bank for using a foreign ATM, but the use and amount of these fees appear to vary substantially among card-issuing banks.

12. The decision for a bank to join an ATM network is complicated.[6] The bank has to pay interchange fees and switch fees for its customers' foreign transactions but receives

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[5] In my declaration, for convenience my main focus is on cash withdrawal transactions, rather than the other types of ATM transactions (deposits, balance inquiries, and balance transfers between accounts). The discussion concerning the efficiencies associated with interchange fees below applies generally to these other types of transactions.

[6] Most ATM networks are also point-of-sale debit networks. The combined ATM and debit network is also known as an electronic funds transfer (EFT) network. When ATM cards are also enabled for use at the point-of-sale, the same physical card also functions as a debit card. That is, a consumer can use her Star card to make retail purchases at stores that have chosen to accept Star debit cards and have installed the PIN-pads needed to process the transactions. The same card can also offer signature debit functionality via the MasterCard or Visa debit networks. For the purposes of my declaration, I have focused only on the ATM aspects of EFT networks.

interchange fees and, if it chooses to set them, surcharges on foreign transactions at its own ATMs.[7] The bank must also pay membership fees to belong to the network. The bank will also consider the impact of joining the ATM network on its ability to compete for depository customers with other banks. Joining the network allows the bank to offer its customers access to a wider network of ATMs beyond its own. At the same time, the bank must agree to make its ATMs available to customers of other banks, thereby allowing those banks to offer customers more attractive ATM services. A bank that has invested in an extensive ATM fleet of its own is unlikely to be willing to offer the benefit of access to those ATMs absent adequate compensation for the competitive advantage provided to its competitors in attracting depository customers.

13. One important category of ATM owners consists of independent sales organizations, or "ISOs," which own and operate ATMs but do not offer banking services.[8] ISOs primarily focus on profits from ATMs, which come almost entirely from surcharges and interchange fees.[9] Unlike financial institutions, ISOs do not have depository banking operations that are affected by participation in an ATM network. The decision of ISOs to participate in an

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[7] In some networks, including Star's, ATM owners also pay a surcharge fee to the network if they have imposed a surcharge on the cardholder. Star refers to the fee that is charged to the consumer as the "convenience fee": this is also commonly referred in the industry as a "surcharge," which is the terminology I have used. Star refers to the fee that is charged to an ATM owner that surcharges as the "surcharge fee."

[8] ISOs are not members of Star but are sponsored into the network by a member institution. This arrangement is common in other ATM networks. For example, both NYCE and Accel/Exchange have similar policies for ISOs. See http://www.accelexchange.com/isoProcessors.aspx and http://www.nyce.net/atmdeployers/index.jsp. Many ISO-deployed ATMs are owned (or partially owned) by retailers, in which case the retailer keeps the majority of the income generated by the ATM, while some are fully owned by the ISO. This mix has change over time, from 55 percent retailer-owned versus 45 percent ISO-owned in 2001, to 87 percent retailer-owned versus 13 percent ISO-owned in 2005. See, "2002 ATM Deployer Study," Dove Consulting, February, 2002, at 33; see also, "2006 ATM Deployer Study," Dove Consulting, September, 2006, at 41-42. Because ISOs share some of the ATM revenue even for ATMs categorized as retailer-owned, and for convenience, I use the term ISO to cover both types of ownership structures. See, "2002 ATM Deployer Study," Dove Consulting, September, 2006, at 32-33. The important distinguishing feature from bank-owned ATMs is that neither retailers nor ISOs have depository customers with ATM cards and therefore do not pay interchange fees.

[9] For ISO-deployed ATMs where a retailer receives some or all of the revenues from ATM transactions, the retailer may also consider the benefit of having ATMs that attract foot traffic to the stores in which they are located.

ATM network is therefore particularly sensitive to expected surcharge revenue and interchange fees.

B. ATM Networks

14. The central function of an ATM network is to facilitate ATM transactions between cardholders and ATM owners who do not otherwise have a contractual relationship. We refer to such a transaction as a foreign ATM transaction. ATM networks are comprised of "issuers" (banks with cardholders) and ATM owners. If an issuer and an ATM owner belong to the same network a consumer with a card from that issuer will be able to use her card in any ATM belonging to that owner. Most ATM owners are depository banks, so they are also ATM issuers, but a significant number are ISOs. ATM networks compete against each other for network members. To be successful, an ATM network must compete against other ATM networks to attract ATM card issuers and ATM owners to its platform.

15. ATM networks provide detailed sets of rules that spell out the rights and responsibilities of each party. For example, the network specifies data transmission standards, ATM functionality standards and transaction types (such as cash withdrawals, balance inquiries, and balance transfers), ATM availability requirements (generally 24 hours a day), ATM card standards, and routing rules for transactions.[10] The network also defines the terms of settlement of transactions among participants. For example, on a withdrawal by Bank A's customer from Bank B's ATM of $100 with an associated $1 surcharge, the rules specify what Bank A must pay Bank B and when it must make the payment, as well as what fees are owed to the network. The network also sets other fees, such as a membership fee for belonging to the network. The network also allocates the risk associated with transactions, such as what happens in the case of fraud or when a cardholder disputes a transaction.

[10] "STAR Network Operating Rules," STAR Systems, Version 1.0, October 2001, at STAR00027493-STAR00027511.

16. The Star ATM network was started by a group of smaller financial institutions in California and other parts of the Western United States in 1984.[11] The creation of Star allowed these smaller financial institutions to offer their respective depository customers access to a much broader network of ATMs than any of them could offer individually. The network initially set cash withdrawal interchange fees at 60 cents for off-premise and 40 cents for on-premise to "provide an equitable method for ATM/electronic terminal owners" and "to encourage entrepreneurial placement of conveniently located ATM's."[12]

17. At around the same time, a number of other ATM networks were also forming. These included Pulse in the South around Texas in 1981, Yankee 24 in New England in 1983, Money Station in the Midwest around Ohio in 1983, NYCE in the Northeast around New York in 1984, Most in the Southeast around Virginia in 1984, and Cash Station in the Midwest around Illinois in 1986.[13] Some other ATM networks had already formed in the mid to late 1970s, including Jeanie in the Midwest around Ohio in 1977, Xpress24 in New England in 1978, Magic Line in the Midwest around Michigan in 1979, MAC in the Mid-Atlantic around Pennsylvania in 1979, and MPACT in the South around Texas in 1979.[14]

18. Most ATM networks, including Star, were started by multiple bank members. A minority, such as Xpress24 owned by BayBanks in New England or Cashstream owned by Mellon in Pennsylvania, were owned by a single bank.[15] Of the top 20 regional ATM networks in 1985, 13 were owned by a joint venture of banks, 6 by a single bank, and 1 by a non-bank.[16] At the time, some larger banks decided not to join a regional ATM network. For example,

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[11] Murphy, Patricia A., "The Man in the EFT Hot Seat," Financial Services Online, October 31, 1998; "1989 EFT Network Data Book," Bank Network News, Vol. 7, No. 13, November 1988, at 6.

[12] "Prospectus," Star Systems, 1984, at 7 and 12.

[13] "1989 EFT Network Data Book," *supra* note 11, at 6-11.

[14] *Id*, at 6-13.

[15] *Id*. at 10; See also, Newman, Joseph, "Institutions, Firms Test MAC System to Dispense Cash," American Banker, Section 3, January 9, 1985.

[16] Hayashi, Fumiko, Richard Sullivan and Stuart Weiner, "A Guide to the ATM and Debit Card Industry," Federal Reserve Bank of Kansas City, 2003, at 27.

Citibank initially relied on its own ATM base.[17] Plus and Cirrus, the two "national" ATM networks, also developed during the 1980s. Visa took an ownership position in Plus in 1982 and began to build it out as a national ATM network.[18] MasterCard acquired Cirrus in 1988 and also developed it as a national ATM network.[19] Banks typically used Plus and Cirrus as ATM networks of "last resort" to provide ATM access to their cardholders for ATMs not covered by the regional networks, including for international ATM transactions.

19. The next major development in ATM networks followed the widespread elimination of no-surcharge rules in 1996.[20] ISOs became an increasingly important factor in ATM networks. There were also significant changes among ATM networks in the late 1990s and early 2000s. Networks began to consolidate through mergers and acquisitions. The Cash Station, MAC, and Honor networks became part of Star; the Yankee24, EFTI and Magic Line networks became part of NYCE; and the Money Station and Tyme networks became part of Pulse. The ownership structure of ATM networks also changed, with proprietary non-bank ownership becoming the norm.[21] From 1996 to 2006, the number of bank joint ventures among the top 20 regional ATM networks went from 14 to 6, the number of single bank networks went from 3 to 8, and the number of non-bank networks from 3 to 6 (including the top three, Star, NYCE and Pulse).[22]

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[17] Brown, Merrill, "Citicorp Taking Lead in High-Tech Finance," The Washington Post, March 25, 1984.

[18] Hayashi et al. *supra* note16, at 13. Visa acquired full ownership of Plus in 1993. "Company News; Visa to Acquire A Card System," The New York Times, November, 3, 1993.

[19] Hayashi et al. *supra* note 16, at 13.

[20] *Id.*

[21] Since the acquisition of Star by Concord EFS in February 2001, Star has functioned as a proprietary network. I understand that there is a disagreement between the parties in this litigation as to whether the interchange fees set by Star after it became a proprietary network still constituted price fixing by the bank defendants. Almost all of the observations and opinions set forth in this declaration regarding the potential procompetitive efficiencies of allowing transfer payments between issuers and deployers apply to both joint ventures and proprietary networks.

[22] See, Hayashi, Fumiko, Richard Sullivan and Stuart Weiner, "A Guide to the ATM and Debit Card Industry: 2006 Update," Federal Reserve Bank of Kansas City, 2006, at 30. This comparison on ownership structure by the Kansas City Federal Reserve focused only on what it characterized as "regional" ATM networks, which included networks such as Star and NYCE, which had started as regional networks but are now national in scope, and did not

20. As I noted above, all ATM networks in the United States at all times through to the present, for which industry data are available, have had positive interchange fees.[23] The fact that all of these networks, in different regions, operating with different ownership structures, and in competition with other networks, have all chosen positive interchange fees at all points in time, is strongly indicative of the efficiency of having a network-wide positive interchange fee.[24] In particular, the use of positive interchange fees by many different proprietary networks implies that such fees must generally enhance network value, since that is the logical objective of a network owner. Since the network simply passes interchange fees from card issuers to ATM owners, interchange must enhance network value by increasing network membership and the volume of transactions processed by the network, since these are the primary sources of network revenue. By thus increasing output, these fees are pro-competitive.

IV. Role of Default Network-Wide Interchange Fees in ATM Networks

A. Need for Contractual Certainty Between ATM Owner and Card Issuer

21. As ATMs and ATM networks have become an integral part of our lives, it is easy to forget how remarkable a foreign ATM transaction really is. A consumer from Bank A can go to Bank B's ATM and withdraw cash from that ATM even though she has no relationship of any kind with Bank B. She can do this when she is far away from any of her bank's branches or ATMs, including when she is traveling in other countries, and withdrawing a different currency

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include the national PLUS and CIRRUS networks owned by Visa and MasterCard respectively.

[23] This includes the following publications with information on the ATM industry: "EFT Network Data Book," Bank Network News, 1989-2007; Debit Card Directory, 1995-2000; The Nilson Report, 1970-2007; Federal Reserve Bank of Kansas City, Payment Card Studies: Hayashi et al. *supra* note 16, and Weiner, Stuart and Julian Wright, "Interchange Fees in Various Countries: Developments and Determinants," Prepared for Federal Reserve Bank of Kansas City International Payments Conference, Santa Fe, New Mexico, May 4-6, 2005. Available data include interchange fees for eight ATM networks in 1983 (MAC, Pulse, Exchange, Magic Line, Cash Station, BankMate, Shazam, and Tyme) as reported in a historical table in the 1995 Debit Card Directory. All of these networks had positive interchange fees in 1983, as did all others networks for which data were available from 1983-1993.

[24] The one network that I am aware of in the United States that did not set interchange fees at the network level was the NETS network in Nebraska. As I discuss further below, for a time NETS allowed each ATM owner to set its own interchange fee, which resulted generally in positive interchange fees that appeared to have been higher than those set by other networks, which eventually led to the establishment of a network-wide interchange fee.

from that on deposit with her bank. The reason the transaction can happen is that, while she has no relationship with Bank B, and Bank A (her bank) may also have no direct relationship with Bank B, Banks A and B have a detailed agreement specifying all the relevant terms associated with transactions by virtue of belonging to the same ATM network.

22. As a matter of basic economic and business principles, it is clear that an ATM owner will not willingly dispense cash to a consumer with whom it has no contractual relationship if it has no assurance that it will be reimbursed or does not know the terms of such reimbursement (e.g., amount, time, manner and risk allocation). In short, the ATM owner needs to know how much it will pay out and how much it will receive, as well as a host of other contractual details. Indeed, even the surcharge an ATM owner may charge the cardholder is not recovered directly from the cardholder, but rather via her depository (issuing) bank. In order for a foreign ATM transaction to occur, therefore, there must be certainty regarding the applicable terms of the transaction between the ATM card issuer and the ATM owner: what will the issuer pay the ATM owner for facilitating the transaction (or vice versa); when and how will the ATM owner be reimbursed for the cash dispensed to the cardholder; which party controls the routing of the transaction (the issuer, the ATM owner, or the network); which party bears the risk of fraud; the allocation of costs incurred by each party; and a number of other details. The difference between what the ATM owner receives and what it pays out must be known for a transaction to occur. That difference has been labeled the interchange fee in U.S. ATM networks.[25]

23. The existence of some advance understanding on the interchange fee is therefore absolutely essential for foreign ATM transactions to occur. Without an agreement on that term of the overall transaction, as well as the other relevant terms associated with a foreign ATM transaction, ATM owners would not rationally be willing to dispense cash to consumers with

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[25] More precisely, the interchange fee is equal to the difference between the funds received by the ATM owner and the sum of the cash it has paid out plus the surcharge the consumer has instructed her bank to pay on her behalf. (The ATM owner may also pay fees to the network.) Thus if the ATM owner knows what it will receive in a given transaction, it necessarily knows the relevant interchange fee – even if in some other institutional setting it is called something else.

whom they do not have a relationship. One theoretical possibility, of course, is that a network's rule would provide that the ATM owner would be reimbursed only "at par," meaning that the interchange fee would be zero.[26] With a zero fee, the ATM owner at least knows that for a $100 foreign ATM transaction, it will receive $100 from the cardholder's bank and that it will neither receive nor pay anything further with respect to this transaction.[27] Faced with an ATM network with a zero (par) interchange fee, for example, an ATM owner can make an informed decision about its expected net benefit from joining the network or deploying ATMs. As I explain Section IV.B., below, while a specified zero interchange fee (like any other specified level of the fee) would deal with the issue of "certainty", there not only is no a priori reason to favor zero over other interchange fees, there are some very strong reasons that suggest it is not likely to be the most sensible amount. My point for the moment, however, is simply that in the absence of *some* specified price term that both the issuer and the ATM owner know (and can rely on) in dealing with one another as part of a network, there would be no contractual basis for their necessary cooperation to create a foreign ATM network transaction. Such specified terms are absolutely essential for any ATM network to operate.

1. Alternatives to Network-Wide Interchange Fees Are Infeasible

24. If collective setting of interchange fees constitutes impermissible price fixing, as I understand the plaintiffs in this case to be arguing, the only alternative for a joint venture ATM network is to avoid setting an interchange fee collectively at all. That is, taking the $100 foreign transaction example from above, the system could not even state that the issuer is obligated to pay at least the ATM owner the $100 that the ATM has dispensed to the issuer's customer, since that would be equivalent to setting a collective default interchange fee of zero since it establishes, on a network-wide basis the amount that members are to pay and receive in any ATM transaction over the relevant network.

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[26] My understanding is that Judge Walker has held, in effect, that if the collective setting of the interchange fee is anticompetitive price fixing (as argued by plaintiffs) then collective setting of a price of zero would still be price-fixing.

[27] For ease of exposition, I assume in this example that there are no surcharges on the transaction and ignore other network fees associated with the transaction.

25. My understanding is that plaintiffs have argued that interchange fees should be "market-determined" in joint venture ATM networks rather than collectively set. I further understand that plaintiffs have not spelled out exactly what they mean by "market-determined" interchange fees. One alternative to a collective decision on interchange suggested by plaintiffs' complaint is to have bilateral agreements on the interchange fee between each possible combination of issuer and ATM owner in the network.[28] In what follows I show that such an approach would simply not work, particularly for a network the size of Star.

a. Other Network Rules and Fees Must Be Set at the Network Level

26. In my discussion of bilateral interchange fee setting below, I make the simplifying assumption that the network can still set rules, as it does now, on everything except for the level of interchange fees. As discussed above, the interchange fee is only one of a large number of detailed terms of the agreement between card issuer and ATM owner that must be agreed upon in advance of a foreign ATM transaction. The card issuer and ATM owner must have certainty not only with respect to the interchange fee but also with respect to all of the other relevant terms concerning payment and operational details (such as response time and routing). In joint venture ATM networks, members each agree to network rules that specify all of the conditions for membership generally and, specifically, all of the relevant terms for a foreign ATM transaction. For example, banks pay annual membership fees and ISOs pay annual participation fees to the network.[29] For each ATM transaction, issuers pay a switch fee and ATM owners (in some networks, including Star's) pay a surcharge fee if they have imposed a surcharge.[30] Network rules also allocate risk between parties—in general, the issuer bears the risk of fraud for properly authorized transactions.[31]

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[28] First Amended Complaint for Damages and Equitable Relief, Brennan v. Concord EFS, Inc., Case No. C04-2676, U.S. Dist. (N.D. Cal., 2005), ¶ 75.

[29] "Exhibit A: Fee Schedule," Star Systems, April 30, 2001, at STAR00065095.

[30] *Id*. at STAR00065098. Again, the surcharge fee is different from the surcharge. In some ATM networks, including Star's, ATM owners also pay a surcharge fee to the network if they have imposed a surcharge on the cardholder. See, *supra* note 7.

[31] "Star Network Operating Rules," *supra* note 10, at STAR00027495-STAR0007496.

27. All of these network rules and fees have direct and indirect financial consequences for members. The network could change its rules and fees or create new ones. For example, it could require ATM owners rather than issuers to be liable for fraud, or it could decide to subsidize ATM installation or maintenance costs on a per-machine basis and finance these subsidies by various fees imposed on issuers. Such changes would affect the incentives for participation in the network. From an economic perspective, the ability of the network to use rules and other fees to affect the incentives of issuers and ATM owners to participate in the network bears a close relation to the ability to set interchange fees to affect those incentives.[32] It is thus unclear to me from an economic perspective why if the collective setting of interchange fees is believed to be anticompetitive, other network rules and fees could be permitted to be determined on a collective basis. But, it is much more difficult to even conceive of a scenario under which all network rules and fees could feasibly be determined by bilateral negotiations rather than at the network level. Nevertheless, as indicated above, and purely for the sake of simplicity, for the remainder of this discussion, I set this issue aside and consider bilateral setting of interchange fees only, assuming that all other network fees and rules are centrally set.

b. Bilateral Negotiations Are at Least Highly Inefficient, And Likely Infeasible for an ATM Network of the Size and Breadth of Star's

28. In my opinion, one of the most powerful arguments for why a network-established interchange fee is efficiency-enhancing for a network like Star is that the alternative, bilateral negotiations, is at best inefficient and likely unworkable.

29. There are a number of reasons why it is unlikely to be feasible to use bilateral agreements on interchange fees to create or maintain a network with as many diverse members as Star. First, there are very substantial transactions costs with the bilateral negotiations needed for each agreement between each issuer and each acquirer. In the Star network with 5,400

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[32] I am not assuming that collective setting of other network rules and fees are a ready substitute for setting interchange fees. Indeed, trying to use other network rules and fees to attempt to achieve some of the balancing function performed by interchange fees is likely much less efficient.

members, bilateral negotiations would require over 14.6 million individual negotiations. It is likely that in most of these cases the members do not otherwise have any commercial relationship beyond belonging to the same ATM network, especially in a network as broad as Star's. The transaction costs associated with bilateral agreements alone makes this alternative substantially less efficient that having a network-wide default fee. While large institutions might find it worthwhile to incur the costs of trying to negotiate acceptable agreements with each other, it is hard to imagine that they would be willing to spend the time necessary to reach agreements with the many smaller institutions that would bring few ATMs or few retail customers to the table.

30. In a regime of bilateral negotiations, it is likely that some potential members would not reach agreements with some others, because they are unwilling even to invest the time necessary to negotiate, because they have decided not to negotiate for strategic reasons, or because negotiations have broken down, then their cardholders cannot make foreign ATM transactions at each other's ATMs. In a network as broad as Star's, there are many differently situated network members with divergent incentives. It is likely that in many cases, members would fail to reach agreement. As I discuss in the next several paragraphs, I do not believe there is a satisfactory way to handle this situation.

31. For example, suppose Bank A and Bank B are local competitors for depository accounts and that Bank A has invested in building a large fleet of ATMs, while Bank B has none. If Bank A provides access to its ATMs to Bank B's customers on the same terms as it provides access to its own customers, that will help Bank B compete more effectively with Bank A for depository customers. Clearly Bank A will be reluctant to share its ATMs with Bank B and will be unlikely to do so unless it is adequately compensated (perhaps by a large interchange fee) for this diminution of its competitive advantage. Under bilateral negotiations, Bank A and Bank B may be unable to find an interchange fee that is agreeable to both. That is particularly likely if Bank A, by refusing to reach agreement with Bank B, can prevent its competitor (B) from being able to offer to its depositors (and prospective depositors) the benefits of being a member of a large ATM network. Such a decision, made by A based on its individual competitive interests

vis-à-vis Bank B, would, however, deprive all other network members, and their depository customers, of the benefits of having B as a network member. The potential for this scenario to be repeated many times over, with equivalent effect, could be substantial,

32. By contrast, when the network sets interchange fees for all transactions in the network and requires universal acceptance, Bank A makes an all or nothing decision to join the network. Bank A will still be concerned about the cost of allowing Bank B access to its ATMs, but Bank A must either decide to share its ATMs with all members of the network and gain access to all those members' ATMs or not to join at all. It cannot pick and choose among potential partners.[33]

33. I have thus far shown that in a large network, like Star, in which interchange can only be set by bilateral negotiation, there are likely to be many members – or, better, candidate members – who fail to reach agreement. At some very abstract level one might imagine admitting all candidates and giving up universal acceptance. That is, an issuer would have to tell its customers that their cards would work in some but not all of the ATMs in the "network". But in the real world such a "network" would be fatally flawed. The promise of universal acceptance to consumers, achieved by imposing the requirement of universal acceptance on members, is fundamental to ATM networks. [34] Indeed, the central purpose of an ATM network is to enable

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[33] This is an illustrative example. It is clear from Star's analyses of the impact of changes in the interchange fee on members that there are significant divergences between banks as net issuers versus net acquirers. "Star Systems Pricing Discussion," Star Systems, Version 2, August 2002, at STAR00021496 and STAR00021497.

[34] While the operating rules of other networks besides Star's are generally not public, available information such as ATM locator web sites are all indicative that universal acceptance applies to all US ATM networks. A review of the top ten U.S. ATM networks as of 2006 and the two global ATM networks (Plus and Cirrus) found that no information that indicated any deviation from a policy of universal acceptance. Of the ten of these that appear to offer an on-line ATM locator, none of them provided any indication that any card belonging to the network would not be usable at all ATMs in the network. (No locators could be found for Jeanie. The Networks (or NETS) network provided links to the Plus and Cirrus ATM locators.) Of the ten for which an online ATM locator was available, nine of them (Star, NYCE, Pulse, Accel/Exchange, Co-Op, Shazam, Transfund, Cirrus and Plus) offered some explicit reassurance to the consumer of universal acceptance. The remaining network (AFFN) provides an ATM locator that identifies network ATMs that the consumer can use and does not provide any indication that any of those ATMs would not be available to the consumer. For more information, see, http://www.star.com/cardholders.aspx; http://www.nyce.net/consumers/index.jsp; https://www.pulse-eft.com/public/group/consumer/consumerqa.html;

cardholders in the network to use any ATM in the network. In a network that sets interchange fees and other rules at the network level, all members must agree on universal acceptance as a condition of membership. In a network based on bilateral negotiation, it may simply not be possible to have both a large network and universal acceptance.

34. To see why, suppose first that in order to assure universal acceptance, the network requires that all members have to reach agreements with all other members as a condition of participating in the network. But the network must thus also define what happens when all candidate members have not reached agreements with each other.

35. One possible rule is that any qualified institution can join the network but that the network simply will not operate unless all members have reached agreements with each other, so that universal acceptance is guaranteed. Such a "shut down" rule would create significant instability in the network, however, because any one candidate member would have the power of shutting down the entire ATM network by its failure to come to agreement with just one other candidate member. This would, for example, subject members who enjoyed major benefits from the network to hold up threats from other members who had little to gain (or lose) from participating in the network.

36. Another possible rule to ensure universal acceptance would determine participation sequentially (a "sequential" rule). For example, allow Banks A and B to participate if they have reached an agreement with each other; then allow Bank C to participate if it has reached agreements with both Banks A and B; and so on. Such a rule would place tremendous power in the hands of the first banks in the network, however, as any one of them would individually have the power to exclude any other bank simply by declining to reach an agreement with that bank. It is implausible that such a scheme would come anywhere close to replicating the widespread ATM network actually achieved by Star.

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http://www.accelexchange.com/atmLocator.aspx; http://www.co-opfs.org/public/locators/atmlocator/index.cfm; http://www.shazam.net/cardholders_shazam_atms.html; http://www.transfund.com/atm.asp; http://www.mastercard.com/us/personal/en/cardholderservices/atmlocations/atm_faqs.html#6; http://visa.via.infonow.net/locator/global/jsp/SearchPage.jsp; http://www.visadps.com/products/visa_check_card.html?it=visadps|/products/visa_plus_atm_network.html|Visa %20Check%20Card; http://www.affn.org/atm_locator_foreign.php.

37. Yet another possible rule to ensure universal acceptance would be to let all members negotiate with each other and then attempt to identify the largest subset of banks that have reached agreements with all other banks in the subset (a "largest subset" rule). This scenario faces similar issues to the sequential rule. Once the largest subset of banks has been determined, any one bank in the group has the power to exclude any other bank outside of the group from participation.

38. Given the importance of universal acceptance and the difficulty of assuring it, a network with the same participation, scale and benefits as the Star network is unlikely to be viable if interchange must be set by bilateral negotiation.[35] Banks with large ATM fleets of their

[35] The Australian domestic ATM and debit industry is sometimes said to have bilaterally set interchange fees. See, Weiner and Wright, *supra* note 23. In fact, the structure in Australia is more like the reciprocal agreements that were common between different U.S. ATM networks when they were more geographically distinct. In Australia, there were four major national banks that each developed its own ATM network, as well as the Cashcard and RediTeller networks used by smaller financial institutions. It is these individual bank networks and the two multi-bank networks that have reached bilateral agreements with each other. The CashCard and RediTeller networks each set network-wide interchange fees for ATM transactions within its respective network, not via bilateral negotiations. See, Credit Union Services Corporation, "CUSCAL Submission on Designation of ATMs," July, 2004, at 2; see also, Cashcard Australia Limited, Submission to the Reserve Bank of Australia, "Designation of the ATM Payments System," July 2004, at i. Cashcard includes more than 50 financial institutions and RediTeller includes more than 150 credit unions. Because the Australian networks are not truly bilateral, there were fewer than 60 such agreements in Australia—it would appear that there are some additional agreements between some parties beyond those between the 4 major banks and the two networks, but far short of the over 20,000 bilateral agreements that would be needed in a network with over 200 members. See, Reserve Bank of Australia and Australian Competition and Consumer Commission, "Debit and Credit Card Schemes in Australia: A Study of Interchange Fees and Access," October, 2000, at 33-34. The Reserve Bank of Australia (RBA), which has regulatory oversight over the ATM industry, formally announced in 2004 that it was considering increased regulation of the ATM industry to "promote efficiency and competition." See, "Reform of Card Payment Systems," Reserve Bank of Australia, Media Release No. 2004-06, June 11, 2004, available at http://www.rba.gov.au/MediaReleases/2004/mr_04_06.html. There have been discussions between the RBA and industry participants, starting before the formal announcement, regarding a variety of network rules, including access of financial institutions to ATM networks, interchange fees, and surcharges. The RBA declined to mandate a zero interchange fee for ATM transactions. It reserved the possibility of doing so for networks and participants that connected directly with each other—that is, requiring a zero interchange fee for transactions between the major banks and the ATM networks, but not within a network such as Cashcard and RediTeller. This was because it was concerned that bilateral negotiations over interchange fees could otherwise be "used in a way that adversely affects access or competition." See, Lowe, Phillip, Reserve Bank of Australia, Financial System group, Letter to David Bell, Australian Bankers' Association, May 31, 2007, available at http://www.rba.gov.au/PaymentsSystem/Reforms/ATM/SubmissionsReformATMSystem/rba_310507_1.pdf; see also, "Payments System Board—November 2005," Media Release No. 2005-13, November 25, 2005, available at

own would likely prefer the option of withdrawing entirely from such an ATM network and perhaps form limited alliances with other banks with large ATM fleets, especially those in other geographic regions. As noted above, given the transactions costs associated with each set of negotiations, all else equal, it is likely that the larger banks would be less interested in even entering into negotiations with smaller banks (particularly those who were direct competitors), let alone reaching agreements with them.

39. It is even less plausible that a large joint venture network with bilateral negotiations over interchange fees could be viable once one considers the real-world fact that financial institutions have generally had the ability to join proprietary networks that can unilaterally impose a network-wide interchange fee. It is difficult to imagine that ATM networks run as joint ventures but required to operate with bilateral negotiations could survive given competition from proprietary ATM networks not subject to such restrictions. It makes no economic sense to create such a substantial bias against ATM networks operated as membership associations.[36]

40. Other than bilateral negotiations, the only alternative means of reaching interchange fee agreements that are not determined by the network would be to give either ATM owners or the issuers the right to dictate the interchange fee on its transactions. That is, all members joining the network would be required to agree that, for example, each ATM owner would dictate the interchange fee on the transactions performed at its machines.

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http://www.rba.gov.au/MediaReleases/2005/mr_05_13.html. I am not aware of any other ATM networks that operate with bilaterally negotiated interchange fees. (I discuss the Nebraska network below, which operated for a while with acquirer-set interchange fees, but which did not involve bilateral negotiations.)

[36] It is my understanding that plaintiffs may be taking the position that interchange fees set unilaterally by a proprietary ATM network are also anticompetitive. It is difficult to see how proprietary networks could operate at all under this theory. Consider, for example, a proprietary network sets its fees so that each ATM card issuer has to pay the network the amount of cash withdrawn plus any surcharge set by the ATM owner plus 60 cents and that each ATM owner receives from the network the amount of cash withdrawn plus any surcharge plus 50 cents. In setting these fees, it will have effectively instituted a network-wide interchange fee of 50 cents and a switch fee of 10 cents. The plaintiffs' position would therefore need to preclude a proprietary network from setting these fees. In any event, the efficiencies associated with interchange fees described in my report exist whether or not a proprietary network exists as a competitive alternative. The existence of the alternative of joining a proprietary network with an interchange emphasizes the inefficiencies that would result from prohibiting joint venture ATM networks from setting interchange fees.

41. Such a scheme would have significant problems when applied to an ATM network of the size and breadth of Star's. Each ATM owner would have an individual incentive to require as much payment as possible from issuers – particularly those who are direct competitors for depository customers. While the ATM owner would be concerned about whether ATM card issuers paid too much interchange fees to make it worth their while to join the network, the ATM owner would recognize that it would individually receive the full benefit of setting a higher interchange fee, while the cost in terms of lessened incentives for ATM card issuers to join would be borne by all ATM owners. (If it were possible to discriminate among issuers, ATM owners would be likely to set particularly high fees for direct competitors; forcing them to withdraw from the network and thus offer fewer ATMs to their customers might bring competitive advantages that would swamp the loss of interchange revenue.) That is, in economic terms there is an "externality," where an individual ATM owner's decision on its own interchange fee imposes costs on other parties. Externalities such as these lead to economic inefficiencies, as the ATM owner, in this case, will set an interchange fee that may be too high because it does not bear the costs imposed on other ATM owners from its decision. The one ATM network I am aware of that has tried such as scheme is a relatively small network, the Nebraska Electronic Transfer System (NETS). And, indeed, the interchange fees set by ATM owners in NETS appear to have been significantly above the interchange fees in other networks at the time.[37] To the extent that the alleged anticompetitive effects are that interchange fees have been too high under the network set fee in Star, it is unlikely that an acquirer set network would lower interchange fees.[38]

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[37] The NETS president stated that in 1996 interchange on cash withdrawals averaged $1.25 as compared to 30 to 60 cents in most networks. See, "State Of The States: ATMs Are Everywhere," Bank Network News, Vol. 15, No. 3, June 26, 1996. Interchange fees continued to escalate to over $2.00 by 1999 and as a result of pressure from Nebraska banks, the network moved to network set interchange fee of $1.50. See "The ATM Revolution," Northwestern Financial Review, Vol. 184, Issue 32, September 4, 1999. Besides the relatively small size of the network, the NETS network is also distinctive in having been set up following state legislation mandating ATM sharing among Nebraska banks (i.e., no bank could refuse access to its ATMs for cards of another Nebraska bank).

[38] Similar arguments indicate that interchange fees might be significantly lower, perhaps negative, if issuers were given the right to set interchange fees. Such a network would have

42. In a world in which interchange fees in all ATM networks could only be set via bilateral negotiation, it is unlikely that any network would be able to maintain the number of members that Star has today. For the reasons discussed above, one would expect to see only networks involving relatively small numbers of institutions. Small institutions would be particularly disadvantaged: while they might build regional networks, it would be very difficult if not impossible for them to offer their customers the sort of national and international coverage they can offer today. Networks composed of a few large institutions might be able to offer their customers considerable geographic coverage, but with only a few member institutions they would be unable to match the ATM density of today's large networks. Today, almost any ATM card will work in almost any ATM in the United States and a large fraction of ATMs worldwide. In a world built on bilateral negotiations, that would not be close to being true.

B. Network-Determined Default Interchange Fees Offer Efficiency Benefits

43. As I have just discussed, there is an essential need for certainty of obligation in any payment network, since banks would not be willing to participate in such networks if the terms of their respective rights and obligations to other participants were not specified in advance. Thus, if ATM networks are not permitted to set a default interchange fee, they almost certainly will be unworkable. In my opinion, that is sufficient reason why centrally determined payment terms, including interchange, do not have the same economic effects as cartel price fixing, since they serve to allow large joint venture networks to be formed and to operate efficiently. In addition to considering that issue, I have also been asked by counsel to address a second issue: whether the ability to set interchange fees freely offers incremental efficiencies over a mandated interchange fee of zero. I consider this issue because I understand that plaintiffs may be alleging that the anticompetitive act in this case was a failure to set a zero interchange fee. I consider this under two scenarios—the existence of a no-surcharge rule and the absence of such a rule. I address that subject in this section of my declaration, even though economists

significant inefficiencies as ATM owners would likely be unwilling to participate in such a network and would have inadequate incentives to install and maintain ATMs.

generally consider price regulation, which this would be, to be better done, if necessary, by expert regulatory agencies than by courts.

44. Before doing so, however, I want to reiterate the point noted above that all of the relevant terms of the agreement between card issuers and ATM owners must be agreed on in advance by network rules or contracts. Assuming the ATM network is permitted to freely set the terms other than the interchange fee, and if it felt that a zero interchange fee were too low to attract ATM owners, for the reasons mentioned below, the network would have a strong incentive to set the other terms of the contract in the favor of the ATM owners over the issuers. For example, it might make sense to increase membership fees generally and use the additional revenue to reimburse ATM owners directly for some of their costs of operating ATMs. I do not know if plaintiffs would allege that such payments would also constitute anticompetitive price fixing, but the point is that there are a whole host of terms that must be agreed upon, which in aggregate have significant effects on the relative costs and benefits on the two sides of the business. A network needs to have agreement on all those other terms to operate, but they can be structured to achieve much the same effects as a positive interchange fee. Even with a mandated zero interchange fee, we may end up with roughly the same relative costs as in a network that is free to set non-zero interchange fees. We would expect that changing rules to reallocate costs would be less efficient, however, since if the interchange fee were constrained, the network would have less flexibility in how it could balance costs and benefits, and reducing flexibility can only reduce efficiency.

1. No Surcharges Permitted

45. If an ATM network decides to impose a no-surcharge rule that prevents ATM owners from imposing surcharges, then the interchange fee is the only instrument available to affect the relative costs on the two sides. In particular, without the ability to surcharge, the interchange fee is the only significant source of revenue on foreign ATM transactions.[39] With an interchange fee that is mandated at zero, there would be essentially no revenue to an ATM owner

[39] Currently, the only two significant sources of revenue for an ATM owner come from interchange fees and surcharges. See, "2006 ATM Deployer Study," *supra* note 8, at 22.

from a foreign ATM transaction. This would significantly lower the incentive to install and maintain ATMs generally. This is especially true for ATMs owned by ISOs for which all transactions are foreign. Without the ability to set a non-zero interchange fee, a joint venture ATM network would likely be unable to provide adequate incentives to attract ATMs to the network, particularly in competition with proprietary ATM networks not subject to such restrictions.

2. Surcharges Permitted

46. Even when ATM owners are permitted to surcharge cardholders, the ability to set and change the level of the interchange fee offers an ATM network an important competitive instrument versus other ATM networks. Interchange fees play a significant role in allowing ATM networks to balance the incentives of issuers and ATM owners to join, even when both issuers and ATM owners can price directly to the cardholder in the form of, respectively, foreign fees and surcharges. Again, the importance of a joint venture network being able to set a non-zero interchange fee is highlighted when competition against proprietary ATM networks that can offer positive interchange fees to ATM owners is considered.

47. The level of the interchange fee has significant effects on the actions of different participants in ATM networks for a number of reasons. First, quite a few ATM cardholders are not subject to foreign fees. For example, some depository customers have some or all of their foreign fees waived depending on the account type and/or the balance maintained in the

account.[40] In addition, some banks absorb surcharges for some of their customers as a competitive measure.[41]

48. Foreign ATM transactions are, after all, but one element of the bundle of services provided by the bank to its depository customers. Banks commonly offer a bundle of services without charging a direct fee for many or most types of transactions. For example, it is common for teller visits, online account access, check writing, notary services, and other services to be "free" in the sense that consumers do not pay a per use fee. Banks rarely if ever charge for use of their own ATMs, and, we noted above, sometimes they do not charge for use of foreign ATMs and even absorb surcharges for some of their customers. Given that these bundled pricing schemes have existed with significant competition among banks for depository customers, it is likely that this type of pricing offers benefits for consumers.

49. If some cardholders do not face a foreign fee for ATM transaction, an increase in the interchange fee can have significant effects on their behavior and on the output of ATM transactions. By making incremental foreign transactions more attractive to ATM owners, a

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[40] For example, Citibank customers with a Citigold checking account are not subject to foreign ATM fees. For more details about the Citibank program, see https://web.da-us.citibank.com/cgi-bin/citifi/scripts/prod_and_service/prod_serv_detail.jsp?BS_Id=Packages&BV_UseBVCookie=yes. In addition to Citibank, Chase, Suntrust, Wachovia, and Wells Fargo also have account options that waive foreign fees. For more information about these programs, see http://www.chase.com/ccp/index.jsp?pg_name=ccpmapp/platinum/home/page/benefits_overview; https://www.suntrust.com/portal/server.pt?space=Opener&control=OpenObject&cached=true&parentname=CommunityPage&parentid=3&in_hi_ClassID=512&in_hi_userid=2&in_hi_ObjectID=441&in_hi_OpenerMode=2&; http://www.wachovia.com/personal/page/0,,11_480_1427,00.html; https://www.wellsfargo.com/checking/.

[41] For example, Wells Fargo reimburses surcharges imposed by non-Wells Fargo ATM owners for account holders with a Portfolio Management Account (PMA) and balances of $250,000 or more. For more information, see https://www.wellsfargo.com/checking/pma/. In addition, PNC Bank provides automatic reimbursement of non-PNC Bank ATM Fees for checking account holders. For PNC'S free checking account customers, a minimum monthly balance of $2,000 or more is required for ATM fee reimbursement. There is no minimum balance requirement for other checking account options. For more information on the PNC Bank features, see https://www.pnc.com/webapp/unsec/ProductsAndService.do?siteArea=/PNC/Home/Personal/Checking/Checking+-+UPDATED.

higher interchange fee will tend to reduce surcharges,[42] thus making foreign ATM transactions cheaper overall for these cardholders and increasing output. With surcharges reduced, it becomes less costly for a card issuer to absorb surcharges faced by its cardholders. A mandated zero interchange fee, on the other hand, will tend to raise surcharges, since ATM owners would receive essentially no revenue from foreign ATM transactions.

50. Optional no-surcharge alliances among banks, such as the STARsf program, have also become increasingly prominent in recent years. In these alliances, each participating member generally agrees not to surcharge transactions at its ATMs made by cardholders of other alliance members.[43] In a mandated zero interchange fee world, such alliances may be much less viable. If one bank's ATMs are used more by another bank's cardholders than vice-versa, the absence of surcharges and interchange fee revenue precludes any means of remedying this imbalance. Banks that were otherwise interested in joining an alliance, but which expected their ATMs to be used disproportionately by others in the alliance, might not join. (I am assuming that the banks in the no-surcharge alliance are not permitted also to agree collectively on a non-zero interchange fee.)

51. Since, as discussed above, the level of ATM interchange fees may not be reflected directly in either foreign fees or surcharges for any number of reasons, the flexibility to set the level of the interchange fee offers an ATM network a significant competitive instrument to attract card issuers and ATM owners. This is especially important when we consider competition with proprietary ATM networks not subject to restrictions on interchange fee setting. If ATM owners did not impose differential surcharges depending on the interchange fee received, they would receive less compensation for a transaction on a zero interchange fee ATM network than

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[42] Some banks have undertaken a strategy of not surcharging other banks' customers for foreign transactions, in part to try to compete for the depository accounts of those consumers. Increases in the interchange fee make such a strategy more attractive by increasing revenue from foreign transactions.

[43] In STARsf, a participating member is required to place at least 60 percent of its ATMs in each state in the STARsf program. The member can place some or all of its ATM cards in the program. See, "STAR Network Operating Rules," *supra* note 10, at STAR00027460 and STAR00027501.

on alternative networks with positive interchange fees.[44] The ATM owner will have less incentive to join a network from which it receives less revenue, especially if the network allowed the issuer or network, rather than the ATM owner, to control routing. If the ATM owner were allowed to control routing, then it would have little incentive to route transactions over an ATM network with a lower interchange fee if a given transaction could also be routed over an ATM network with a higher interchange fee. This would also limit the ability of the lower interchange fee network to attract transactions and expand output.

52. An ATM network that is unable to offer attractive interchange fees to ATM owners will likely have significant difficulty attracting ATMs to the network. Interchange fees are a very significant portion of revenues for ATM owners. A recent study of ATM deployment found that interchange fees accounted for about 36 percent of revenues at on-premise ATMs and 30 percent of revenues at off-premise ATMs.[45] A network with zero interchange fees would therefore be substantially less attractive to an ATM owner. This would be a particular concern for ISOs, which join ATM networks in order to gain access to profitable ATM transactions. Given these incentives, it is not surprising that, as mentioned above, all ATM networks in the United States appear to have always had positive interchange fees, both before and after the advent of surcharging.

53. Also not surprisingly, ATM networks pay close attention to their interchange fees and how they compare to those of other networks in attracting participants to the network. The Star network, for example, operated as follows:

> On an annual basis we would convene a group of internal staff to review all of the fees, transaction fees, processing fees, membership fees. We would review what our competitors were doing. We would look at any new products or services that

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[44] ATM owners do not appear to use differential surcharges to any significant degree. (Some of this may be attributable to network rules that prohibit differential surcharges.) Even to the extent that some ATM owners are able and willing to impose differential surcharges to make up for the difference in interchange fee revenue, ATM networks subject to higher surcharges would likely be at a competitive disadvantage from the perspective of consumers. Cardholders may react negatively to a higher surcharge, especially if they know that they are paying a higher surcharge than other consumers. And as discussed above, some banks may prefer that their cardholders face lower surcharges than that which would prevail with a zero interchange fee.

[45] "2006 ATM Deployer Study," *supra* note 8, at 22.

> were planned to come live in the next 12 months and what the fees should be for those, and we would come up with different scenarios of fee changes that would be considered. We then used those scenarios to analyze the impact to customers and to the company, and we would make recommendations first to the STAR senior management, STAR Network president, and then the network president in turn would present it to the STAR board…. For any given fee that we were reviewing, we would look at the rates that we charge and the rates that our competitors charge for the same activity or transaction.[46]

54. Star was very focused on the competitiveness of its fee structure in appealing to participants:

> [T]he switch fees and the interchange fees that were -- that were set by the Star Network were competitive with other networks that existed in the industry…Competitive switch fees and interchange fees, in our opinion, was very important to financial institutions in order to persuade organization -- financial institutions to do business with one particular network over another.[47]

55. The Cash Station ATM network, which was operated primarily in the Midwest and was eventually consolidated with Star after the Concord acquisition, was also concerned with these same issues:

> Senior management of the network Cash Station would examine our fees on an annual or biannual basis. It was not necessarily set on a calendar basis. We would look at – examine competition, we would examine our disparate parties and interests and, as is the nature of regional networks, try to achieve an appropriate balancing act. Because without acquirers we don't have issuers, without issuers we don't have acquirers. And that has always been the tradition of trying to look at what's best for us competitively to serve our members and retain our members, all of our members, and examine small issuers, large issuers,

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[46] See, Deposition of Elizabeth Lynn, In re: ATM Fee Antitrust Litigation, Master File No. C04-2676, taken on July 21, 2006, at 23: 9-23, and at 25: 12-15. Ms. Lynn is currently Senior Vice President of Strategy and Portfolio Management for First Data Debit Services, which includes the Star Network.

[47] See, Deposition of Nikki Waters, In re: ATM Fee Antitrust Litigation, Master File No. C04-2676, taken on July 20, 2006, at 40: 2-5, and at 42: 12-15. Ms. Waters currently works in the strategic Business development, prepaid group, commercial services division at First Data/Concord, and was previously Chief Marketing Officer for the Enterprise Payments Division, where she oversaw marketing for the debit group, which included the Star Network.

> large acquirers, small acquirers, merchants, and try to achieve the appropriate balance and maintain the health and well-being of the network going forward.[48]

56. The difference between the interchange fees on the MAC and Star networks shows how interchange fees can have a significant effect on ATM deployment on a network. When Concord, which operated the MAC ATM network, acquired Star in February 2001, MAC's ATM interchange fees were significantly lower than Star's.[49] MAC's interchange fee in its primary region in the eastern part of the United States for cash withdrawals was 37 cents for both on-premise and off-premise transactions, compared to Star's fee of 45 cents for on-premise and 55 cents for off-premise.[50] Star's analysis in trying to reconcile the differing fee structures of the two networks post merger found that "many deployers have not joined MAC because of low interchange fees."[51] It also found that "the current STAR fee schedule has been very successful in encouraging the wide distribution of ATMs for the issuers."[52] Star decided to use the existing higher Star interchange fees for cash withdrawals for MAC transactions as well.[53] This indicates that the interchange fee serves a strong procompetitive function for ATM networks as an instrument to balance the needs to attract issuers and ATM owners. This is true even in the presence of surcharging, which was well in place at this time.[54]

57. In a world in which all ATM networks had to have a zero interchange fee, all else equal, there would be fewer ATMs available to consumers than there are today, and average

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[48] See, Deposition of G. Kirk Ergang, Jr., In re: ATM Fee Antitrust Litigation, Master File No. C04-2676, taken on June 30, 2006, at 37: 12-25, and at 38: 1-6. Mr. Ergang currently works in networks administration at Star.

[49] "Concord EFS Completes Acquisition of Star Systems, Inc." Star Systems Press Release, February 1, 2001, available at http://www.star.com/february_1,_2001.aspx.

[50] These are the MAC "East" interchange fees. See, McCarthy, Jim, "Pricing Committee," Star Presentation, May 10, 2001, at STAR00026880 and STAR00026882.

[51] Id. at STAR00026882.

[52] Id.

[53] Id. at STAR00026883.

[54] The growth of ATMs following the elimination of no-surcharge rules beginning in 1996 also illustrates the significant effect that changes in revenue streams can have on ATM deployment. The rate of ATM installation was much greater after 1996—the number of installed ATMs grew by about 18 percent for the five years following 1996, compared to 11 percent for the 5 years preceding. See, McAndrews, James J., "ATM Surcharges," Current Issues in Economics and Finance, Vol. 4, Number 4, April 1998, at 3.

surcharges would be higher. Without interchange income, some ATMs would be uneconomic at feasible surcharge levels and would be removed. Others would become economic by raising surcharge levels. Any networks that existed would be unable to offer depository customers the level of convenience they enjoy today. Banks that use foreign fees to discourage use of competitors branches or as a revenue source might leave them at current levels for some or all customers.

C. No Likely Anticompetitive Effects

58. There is nearly universal agreement among economists that price-fixing cartels are anticompetitive because they raise prices to buyers and restrict output without offsetting efficiencies. Under the plaintiffs' theory, the bank members of Star are alleged to have conspired to have set ATM interchange fees, which plaintiffs characterize as price-fixing. As I have explained, however, the economic function of the interchange fee is not that of a price charged to buyers; rather it is an instrument used by the network to balance costs and benefits between the two sides—ATM card issuers and ATM owners—of the network.

59. Interchange thus provides significant efficiencies for ATM networks, and setting interchange is fundamentally different from a group of sellers fixing the price they will charge buyers. When a cartel raises price, output necessarily falls below the efficient level. A higher interchange fee, on the other hand, may well increase output. If the interchange fee is increased on ATM transactions, for example, then the revenues of ATM owners have increased while the costs of ATM card issuers have increased. The direct effect of increasing the interchange fee is therefore to change the relative profits on the two sides of the network. Allowing the network the ability to adjust the relative costs of participation on the two sides of the system permits it to find the right balance it needs to attract members on both sides, and thus to increase transactions volume between them. Thus raising the interchange fee in an ATM network may well increase output by increasing the attractiveness of the network to ATM owners.[55] Of course, in other circumstances, the network may want to lower interchange fees to appeal more to ATM card

[55] I discuss this point with respect to payment cards in Evans and Schmalensee, *supra* note 2.

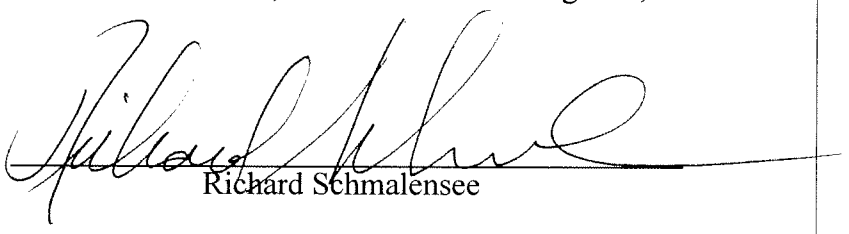
issuers. The point is that having the flexibility to set the interchange fee allows the network to try to find the right balance to enhance output and thus network value.

60. The output-enhancing effects of positive interchange are strongly indicated by the fact we have always observed similar fees in proprietary ATM networks. In this case, interchange offers no direct benefit to the network owner, whose profitability is plainly tied to increasing membership and output. The dominant incentive of a proprietary ATM network owner is to increase transaction volume, upon which it earns income, and increasing transaction volume is directly related to its ability to attract participation on both sides of the network. A proprietary ATM network owner would be unambiguously worse off were it to set the interchange fee unreasonably high and thereby reduce output. That is instructive here, because there is no principled reason to believe that the same business practice implemented for the same reasons in a joint venture ATM network would have different output effects.

61. It is also important to note that Star's members who participated in interchange fee setting were, in aggregate, net payers of interchange fees to the ISOs, which owned ATMs but did not issue cards (and thus did not pay interchange). ISOs accounted for about half of all installed ATMs in the United States in 2005.[56] Thus the plaintiffs' theory is that the alleged conspiracy consists of banks choosing to raise the prices the system charges them in order to raise its payments to non-participants in the conspiracy. This doesn't make economic sense as a theory of anticompetitive harm. Cartel members do not collude to raise their own costs in order to send money outside the cartel.

[56] "2006 ATM Deployer Study," *supra* note 8, at 38.

62. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed in Boston, Massachusetts on August 2, 2007.



Richard Schmalensee

APPENDIX A

APPENDIX A

Appendix A

CURRICULUM VITAE

Richard Schmalensee

Howard W. Johnson Professor of Economics and Management
John C Head III Dean, Emeritus, Sloan School of Management
Massachusetts Institute of Technology

Business Address:
50 Memorial Drive
Cambridge, Massachusetts 02142
(on sabbatical 2007-08)
email: rschmal@mit.edu

Home Address:
172 Beacon Street, Unit 4
Boston, Massachusetts 02116
(617) 247-0029, fax: -0038

EDUCATION:

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
S.B., Economics, Politics and Science, 1965
Ph.D., Economics, 1970

EMPLOYMENT:

	MASSACHUSETTS INSTITUTE OF TECHNOLOGY
2007-	Howard W. Johnson Professor of Economics and Management
2001-07	John C Head III Dean, MIT Sloan School of Management
1998-00	Dean, MIT Sloan School of Management (Interim, July-October 1998)
1996-98	Deputy Dean, MIT Sloan School of Management
1991-99	Director, Center for Energy and Environmental Policy Research
1988-99	Gordon Y Billard Professor of Economics and Management
1986-	Professor, Department of Economics
1979-	Professor, MIT Sloan School of Management
1977-79	Associate Professor, MIT Sloan School of Management
1970	Assistant Professor, MIT Sloan School of Management (Spring)
1967-69	Instructor, MIT Sloan School of Management
	PRESIDENT'S COUNCIL OF ECONOMIC ADVISERS
1989-91	Member
1967	Junior Staff Economist (Summer)
	UNIVERSITY OF CALIFORNIA, SAN DIEGO
1974-77	Associate Professor, Department of Economics
1970-74	Assistant Professor, Department of Economics

VISITING APPOINTMENTS:

2007	Distinguished Visiting Scholar, Tuck School of Business, Dartmouth (Fall)

1985-86 Visiting Professor, Harvard Business School
1985 Visiting Professor, CORE, University of Louvain, Belgium (Spring)
1980-81 Visiting Scholar, Department of Economics, Harvard University
1973-74 Visiting Associate Professor and Research Fellow, Department of Economics, University of Louvain, Belgium

EDITORIAL SERVICE:

Editorial Board: *Journal of Economics and Management Strategy*, 1992-98
Associate Editor: *Journal of Economic Perspectives*, 1992-98
Associate Editor: *International Journal of Industrial Organization*, 1982-89
Board of Editors: *American Economic Review*, 1982-86
Founding Editor, 1978-89; Co-Editor, 1989-: MIT Press Series, *Regulation of Economic Activity*
Associate Editor, 1977-81; Board of Editors, 1981-89: *Journal of Industrial Economics*
Editor in Chief: *Competition Policy International*, 2005-

PROFESSIONAL ASSOCIATIONS:

American Economic Association: Executive Committee, 1993-95; Budget Committee, 1993-95; Nominating Committee, 1987; Advisory Committee on Meetings Program, 1986, 1989, 1994
Econometric Society: Chair, Local Arrangements Committee, 1985 World Congress; Chair, Program Committee, 1980 North American Fall Meeting; Program Committee, 1980 World Congress
Second World Congress of Environmental Economists, Program Committee, 2002

CONSULTATION AND GOVERNMENT SERVICE (SELECTED):

Market Platform Dynamics: Chairman, 2004-
LECG, LLC: Director, 2004-
National Academies/National Research Council: Panel on Transportation and a Sustainable Environment, 1994-97; Committee on National Statistics, 1998-2001; Panel on Cost-of-Living Indexes, 1999-2001; Coordinating Committee on the Transition to Sustainability, 2000-2001
U.S. Environmental Protection Agency: Environmental Economics Advisory Committee, 1992-96, 1998; Clean Air Act Compliance Analysis Council, 1992-98, Chairman 1992-96
Antitrust Division, U.S. Department of Justice, consultant, 1991-92 (1992 Merger Guidelines)
NERA Economic Consulting: Special Consultant 1981-89, 1991-2004
Bureau of Economics, U.S. Federal Trade Commission: consultant, 1972-81 (Antitrust Policy)

AWARDS AND OTHER PROFESSIONAL ACTIVITIES (SELECTED):

Member, National Commission on Energy Policy, 2006-
European Investment Bank Lecture, European University Institute, 2002
Fathauer Lecture in Political Economy, University of Arizona, 2000
Member, International Academy of Management, 1998-
Fellow: American Academy of Arts and Sciences, 1995-
Edward A. Hewett Prize, American Association for the Advancement of Slavic Studies (with P.L. Joskow and N. Tsukanova), 1995
Revista de Análisis Económico Lecture, Econometric Society Latin American Meeting, 1994
Research Associate: National Bureau of Economic Research, 1992-
Board of Directors: Long Island Lighting Company, 1992-98; MIT Press, 1994-2007; International Securities Exchange, 2000-; MFS Investment Management, 2002-04; International Data Group, 2004-

Donald Gilbert Memorial Lecture, University of Rochester, 1992
American Council for Capital Formation Center for Policy Research: Board of Directors, 1991-; Environmental Policy Fellow, 1997-98
Fellow, Econometric Society, 1982-

BOOKS WRITTEN:

The Economics of Advertising (Vol. 80, Contributions to Economic Analysis), Amsterdam: North-Holland, 1972.

Applied Microeconomics: Problems in Estimation, Forecasting and Decision-Making, San Francisco: Holden-Day, 1973.

An Introduction to Applied Macroeconomics (with E. Kuh), Amsterdam: North-Holland, 1973. Japanese edition, 1975.

The Control of Natural Monopolies, Lexington: D.C. Heath (Lexington Books), 1979.

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Economics, 2nd Ed. (with S. Fischer and R. Dornbusch), New York: McGraw-Hill, 1988. Multiple foreign language editions.

Paying with Plastic: The Digital Revolution in Buying and Borrowing (with D.S. Evans), Cambridge: MIT Press, 1999. Second edition, 2005.

Markets for Clean Air: The U.S. Acid Rain Program (with A.D. Ellerman, P.L. Joskow, J.P. Montero, and E.M. Bailey), Cambridge: Cambridge University Press, 2000.

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Catalyst Code (with D.S. Evans), Boston: Harvard Business School Press, 2007.

BOOKS EDITED:

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Handbook of Industrial Organization, Vols. I & II (ed., with R. D. Willig), Amsterdam: North-Holland, 1989.

Management: Inventing and Delivering Its Future (ed., with T.A. Kochan), Cambridge: MIT Press, 2003. Chinese and Korean editions, 2004.

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"Consumer's Surplus and Producer's Goods." *American Economic Review*, 61 (September 1971): 682-687.

"A Note on Monopolistic Competition and Excess Capacity." *Journal of Political Economy*, 80 (May/June 1972): 586-591.

"Option Demand and Consumer's Surplus: Valuing Price Changes Under Uncertainty." *American Economic Review*, 62 (December 1972): 813-824.

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"Estimating the Costs and Benefits of Utility Regulation." *Quarterly Review of Economics and Business*, 14 (Summer 1974): 51-64.

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"Antitrust Issues in Schumpeterian Industries." *American Economic Review*, 90 (May 2000): 192-196.

"An Analysis of the Government's Economic Case in *U.S. v. Microsoft*" (with D.S. Evans and A.L. Nichols). *Antitrust Bulletin*, Summer 2001, pp. 163-531. Reprinted in *Microsoft, Antitrust and the New Economy: Selected Essays* (D.S. Evans, ed.), Boston: Kluwer: 2002.

"Payment Systems and Interchange Fees," *Journal of Industrial Economics*, 50 (June 2002): 103-122.

"Sunk Costs and Antitrust Barriers to Entry," *American Economic Review*, 94 (May 2004): 471-475.

"A Survey of the Economic Role of Software Platforms in Computer-Based Industries," *CESIfo Economic Studies*, 51 (2005): 189-224. (Reprinted, with minor changes, as "Software Platforms." In *Industrial Organization and the Digital Economy* (G. Illig and M. Peitz, eds.). Cambridge: MIT Press, 2006, pp. 31-70.)

"*United States v. Microsoft:* Did Consumers Win?" (with D.S. Evans and A.L. Nichols). *Journal of Competition Law and Economics*, 1 (September 2005): 497-539

"The Industrial Organization of Markets with Two-Sided Platforms" (with D.S, Evans), *Competition Policy International*, 3 (Spring 2007): 151-179.

"Pricing Patents for Licensing in Standard-Setting Organizations: Making Sense of *FRAND* Commitments" (with A. Layne-Farrar and A.J. Padilla), *Antitrust Law Journal*, forthcoming.

CHAPTERS IN BOOKS:

"Advertising and Economic Welfare." In *Advertising and the Public Interest* (S. F. Divita, ed.), Chicago: American Marketing Association, 1974, pp. 82-97.

"Promoting Competition in Tomorrow's Markets for Solar Energy Systems." In *The Solar Market: Proceedings of the Symposium on Competition in the Solar Energy Industry*, U.S. Federal Trade Commission, Washington, D.C.: U.S. Government Printing Office, 1978, pp. 119-135.

"Cartel and Oligopoly Pricing of Nonreplenishable Natural Resources" (with T.R. Lewis). In *Dynamic Optimization and Mathematical Economics* (P. T. Liu, ed.), New York: Plenum, 1980, pp. 133-156.

"The New Industrial Organization and the Economic Analysis of Modern Markets." In *Advances in Economic Theory* (W. Hildenbrand, ed.), Cambridge: Cambridge University Press, 1982, pp. 253-285.

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July 2007

APPENDIX B

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Appendix B

Schmalensee Interviews

Mike Clinard, Chief Operating Officer, Cardtronics.

David Cohen, Senior Vice President, Chase.

Ronald Congemi, Senior Vice President, First Data Corporation.

Jerry Garcia, Chief Information Officer, Cardtronics.

Jennifer Haag, Senior Vice President, Bank of America.

Ed Kadletz, Executive Vice President, Wells Fargo.

Dennis Lynch, Retired, Former President and CEO, NYCE, Defendants' industry consultant and expert.

Elizabeth Lynn, Senior Vice President, First Data Debit Services.

Ralph Perry, Retired, Former Executive Vice President, Wachovia.

James Walker, Senior Vice President, PNC Bank.

APPENDIX C

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Documents Relied Upon By Schmalensee

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